

# (Re)Building Proun #5A in the Metaverse

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**Abstract** — During the years of Suprematism, between 1919 and 1923 in Russia, one of the movement's most significant contributors, architect, artist and designer El Lissitzky developed a series of works which he entitled "Prouns," a name the exact meaning of which El Lissitzky never fully revealed, although he later described the purpose of his creations as interchange stations from painting to architecture, i.e., from two dimensional to three dimensional visuality.

The author has re-created El Lissitzky's "Proun #5A" from 1919 in the metaverse, as an architecture for avatars. The process in which the translation from analogue drawing to three dimensional digital artifact was undertaken, the challenges encountered during its re-building; framed within a literature review that examines both El Lissitzky's influence on contemporary cyber-architecture, as well as the significance of his spatial investigations and his sources of inspiration during the early decades of the twentieth century will form the contents of this text.

**Keywords** - 3D; Architecture; Art; Avatar; El Lissitzky; Metaverse; Proun; Suprematism; Virtual worlds;

## I. INTRODUCTION: SUPREMATISM AND EL LISSITZKY

The project discussed in this text is based upon the concept of 'The Proun' which artist/designer/architect Lazar Markovich Lissitzky (widely known as El Lissitzky) developed during his association with the Suprematist art movement, instigated by Kazimir Malevich during and following the years of World War I.

Although Suprematism was established as an art movement in as early as 1913, El Lissitzky's involvement with it did not come about until 1919 when he was brought into close contact with Kazimir Malevich at an art school founded and directed by Marc Chagall in Vitebsk, near Moscow. Prior to his involvement with the Suprematist movement El Lissitzky had whole-heartedly embraced the tenets of Constructivism, and would return to them after 1924 when the Suprematist movement came to an end under Stalin's new regime. What is of note in his 5 year-long affiliation to Suprematism is that the movement is fundamentally opposed to the post-revolutionary positions of Constructivism with its cult of the object, and its strategies of adapting art to the principles of functional organization. Under Constructivism, the traditional artist is transformed into the artist-as-engineer in charge of organizing life in all of its aspects. Suprematism, in sharp contrast to

Constructivism, embodies a profoundly anti-materialist, anti-utilitarian philosophy. Malevich writes:

*"Art no longer cares to serve the state and religion, it no longer wishes to illustrate the history of manners, it wants to have nothing further to do with the object, as such, and believes that it can exist, in and for itself, without "things," that is, the "time-tested well-spring of life;" further explicating that "under Suprematism I understand the primacy of pure feeling in creative art. To the Suprematist, the visual phenomena of the objective world are, in themselves, meaningless; the significant thing is feeling, as such, quite apart from the environment in which it is called forth."* [1]

Malevich's influence freed El Lissitzky up to work in a far more abstract/immaterial manner than he had previously done, allowing him to pursue investigations that questioned the relationships between space, shape and time. Although Malevich's artistic concerns were primarily based in two dimensionality, El Lissitzky, with his training as an architect, soon translated the basic two dimensional Suprematist visual grammar that revolved around a very limited range of elements (the square and the circle as the two primary visual components, and the colors red, black and white as the primary colors) into three dimensionality. A further distinction is that El Lissitzky, with his previous grounding in Constructivism, kept on focusing upon output that investigated design and architecture, to which he applied the principles of Malevich's Suprematist art philosophy.

Alongside the many architectural drawings which he made during this period, he also worked in costume design, creating a new set of architectonic theater costume proposals for the Russian Futurist opera "Victory over the Sun" which had previously been performed in 1913; saying about these geometric costumes, which effectively translated Malevich's Suprematist credo into three dimensional wearables, that *"every form is the frozen instantaneous picture of a process. Thus a work is a stopping-place on the road of becoming and not the fixed goal."* [2]

Further translations of abstract Suprematist concepts into utilitarian design artifacts, which bear testimony to his continued allegiance to the Constructivist ideal, can also be found in his collaboration with Vladimir Mayakovski that resulted in a book of poetry entitled 'For the Voice' (1923) and his famed children's book of 1922, 'The story of the little red square.' In both of these books El Lissitzky used all visual elements strictly under Suprematist guidelines, both in terms of shape as well as of color; whilst still retaining his

earlier ethics of considering the artist as an agent of change whose work should revolve around the task of transforming the society in which he/she operates through an active shaping of its industrial output. [3]

## II. THE PROUNS

By the end of 1919, Lissitzky was making series of drawings of architectonic constructions that held hybrid perspectives which had variable, oftentimes skewed, and contradictory vanishing points. He used construction materials (sand, metal shavings, wood shavings, glass etc) that he mixed into paint to bring about a sense of energy generated by the encounter of these different surfaces, saying that *"the element of treatment which we have brought to the fore in our painting will be applied to the whole of this still-to-be-built world and will turn the roughness of concrete the smoothness of metal and the reflection of glass into the outer membrane of the new life."* [4] Shortly afterwards he would call these compositions Prouns.

The creation of a Proun involved a process in which abstract geometric shapes defined spatial relationships that were developed as 3-dimensional constructs from which El Lissitzky rendered multiple paintings or drawings, often looking at the structure from varying perspectives out of which the series was then generated.

Although he was notoriously vague about an exact definition of the term as it relates to the drawings, he did give clues as to what their purpose was, why he was making them. A well known one of these is his proclamation that a *"Proun is the interchange station from painting to architecture,"* [5] a statement which has been also been expanded on by Marcos Novak when he integrated it into his own conception of liquid architecture for cyberspace. *"Proun is a transfer station from material to the immaterial."* Born from light and the motion of objects, this notion has elements in common with the space of electronic media. *"The liquid architecture of cyber space is clearly immaterial architecture. It is architecture that is no longer satisfied with form, light and the other aspects of the real world. It is an architecture composed of changing relationships between a variety of abstract elements"* [6]

While the earlier Prouns were all drawings, El Lissitzky later also created three dimensional 'Proun Rooms.' The first of these was put together for the Grosse Berliner Kunstausstellung in 1923; where he decided to transform a small cubic space into an exploded Proun, an environment which was designed to impress specific visual dynamics on the entrant. [7] However, dynamic, exploratory behaviour on behalf of the spectator was crucial to all of the Prouns - be they two dimensional drawings or actual physical rooms. Thus, he writes on a Proun room that he was commissioned to do for an art show in Dresden in 1926:

*"I have placed thin laths perpendicular to the wall at regular intervals, and I have painted them white on the left side, black on the right side and the wall itself grey. So you see the wall grey from the front, white from the left, black from the right. According to the standpoint of the viewer, the pictures appear on white, black, or grey - they acquire a*

*threefold life. (...)With every movement of the spectator in the room the impression of the walls changes - what was white becomes black and vice versa. Thus an optical dynamic is generated as a consequence of the human stride. This makes the spectator active."* [8]

(Re)building a Proun in the metaverse, i.e., as virtually embodied three dimensional architecture, therefore appears to be a question/challenge of creating what Novak calls the materially immaterial, coming about as a build of shifting, contradictory perspectives and components in which the inhabitant avatar's position reigns supreme over the experience - and last but not least, it involves an attempt at building an interchange station that embodies a shift from painting to architecture, or indeed possibly also a reversal of El Lissitzky's original premise - a shift from architecture back to painting.

## III. A PROUN FOR AVATARS

The (re)building of Proun #5A as a virtual construct was one of the components of a collaborative Second Life® venture which was part of a large exhibition that was held in the Spring of 2014 in the Manege Museum in Moscow. The conceptualizers/artistic directors of the project, filmmaker Peter Greenaway and artist Saskia Boddeke, were supported by the British Council to create a unique viewing experience by fusing together a variety of visual forms. More than 1,000 artworks, borrowed from galleries and private collections around the world were displayed as a gigantic exhibit that spread across 5000 square metres, accompanied by a film that was shown as a polyscreen installation. The exhibit aimed to bring about a viewing of historic of artifacts by combining film, animation and 3D virtual world technology which were brought together to create a unified atmospheric work, drawing the viewer into the space of the Russian avant-garde.

I have long been a great admirer of El Lissitzky's oeuvre, and when I was invited by Greenaway and Boddeke to contribute to their project, I immediately asked them whether it would be possible for me to concentrate exclusively on his output - a proposal to which they had no objection to. The result were three different projects that in two cases were almost exact replicas of El Lissitzky's work (for which the needed permissions were obtained by the exhibition's organizers in Russia), and one of which was more of an interpretation based upon his original output. The Proun #5A build falls into the first category - I tried to replicate and/or virtually three dimensionalize El Lissitzky's vision of the construct as closely as I could.<sup>1</sup>

El Lissitzky rendered the construct that he worked from from many different viewpoints, in a detailed and crisp technique - very much like a technical drawing. However, it soon became evident that some further work was needed to get a grasp on the plan of the structure since all the drawings

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<sup>1</sup> Due to copyright reasons the original drawings of Proun #5A by El Lissitzky are not shown in this paper, however an internet search will lead to many results, showing drawings from many viewpoints, one of which can also be accessed from here: <http://tinyurl.com/mgyxps6>

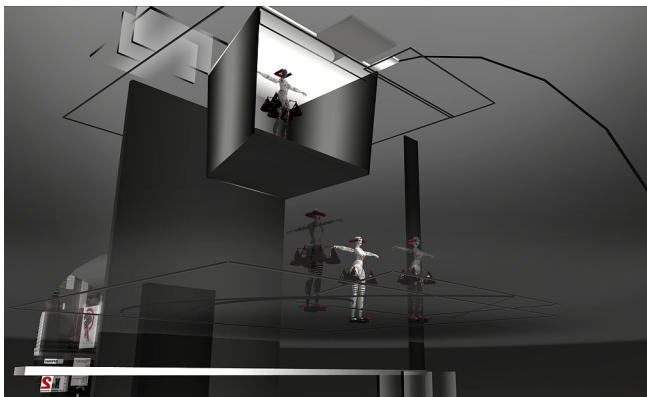
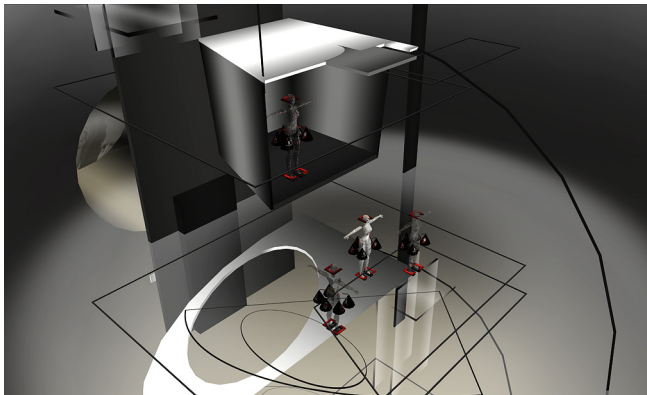
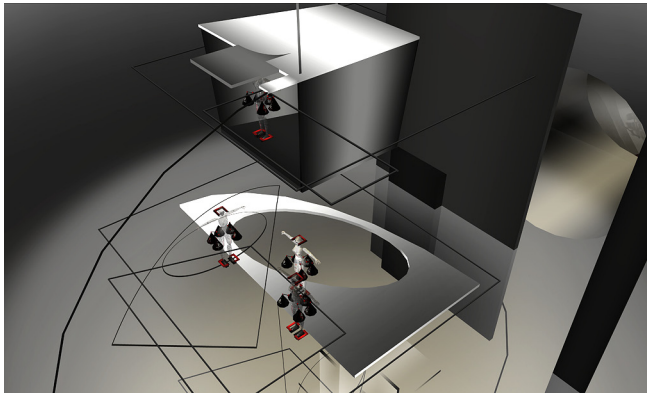


Figure 1, Figure 2, Figure 3. El Lissitzky's (re)constructed Proun #5A in the metaverse - shown from 3 different viewpoints with inhabitant avatars, placed for scaling purposes. Elif Ayiter, aka. Alpha Auer, Second Life, 2014. Photographs by Elif Ayiter.

were perspective drawings, and what was needed was a bird's eye view that would enable me to see the actual shapes of the components without the perspective distortion with which El Lissitzky had drawn them. I tried to approximate such a bird's eye view by opening the drawing that showed the structure from an angle that was closest to a top view in an image editing software, and then used the 'perspective,' 'skew' and 'distort' transformation tools to reverse its perspective. From this distorted image I then traced the outlines of the components and created vector

shapes out of them. These vector shapes were imported into a 3D modeling software, where they were extruded and then taken into Second Life as mesh objects. At a later date I also came across the work of Rob Robbers<sup>2</sup>, an architect who had modelled some of the Prouns, including #5A, with 3D software and had made his output available online in various 3D formats. I was pleased to see that my reverse perspective strategy came very close to his findings.

I also paid considerable attention to El Lissitzky's usage of building materials which he mixed into traditional paint, and spent time on finding textures that approximated the materials that were used in the Proun #5A drawings (glass, concrete, metal) with which I would cover the components and walls of the virtual construct as I was building it.

Examining El Lissitzky's architectural concepts through a process of (re)building from his three dimensional drawings is not new. Amongst many others, such work has previously been undertaken by John Millner from the Courtauld Institute in London, in 2010. Milner says that it occurred to him, while reading one of El Lissitzky's essays, to ask what El Lissitzky was actually suggesting through his architectural drawings, whether there might not be an implicit architectural challenge in them; what the potential of these drawings might be if they were to be realized as actual models. *"When you look at a lithograph like The Town you begin to see that this is essentially city planning, so we have made some of the models. But we were not making 'fake Lissitzky'; we were trying to convey the idea that there is a proposition here, that you can change the world and this is how you can do it, so we're just taking it forward a step."* [9]

Although conceived well before the advent of the digital medium, and through entirely analogue procedures, the significance of the Proun drawings has been noted upon by cyber-architects, since they allow for a visual method of re-interpretation/re-definition of virtual time and space, particularly when placed in relation to El Lissitzky's preoccupation with immateriality as a spatial norm, a notion which he drew from Einstein's theory of relativity and the manner in which architectural forms might be perceived at the speed of light.

Research on the relevance of the Proun drawings to cyber-architecture has been conducted by Sang-Ho Lee and his team, who have re-modelled Proun #2 as a virtual artifact. Their study is based upon questions that are related to the Proun series' common attributes and what the specific logic that seems to have been applied to all of them may have been. Their findings show that the *"image of space presented in the Proun discloses differences with methods of space organization in pre-existent analogue media to the point of showing a procedure of computation algorithm in their logic."* [10] In a virtual world, Lee says, space and time are deconstructed, as a result of which experiences become impromptu, momentary and repeatable, simultaneous and even identical. Similarly, El Lissitzky's Prouns express space without actual directions.

<sup>2</sup> [http://lava.ds.arch.tue.nl/modelshop/lissitzky/prouns\\_r/](http://lava.ds.arch.tue.nl/modelshop/lissitzky/prouns_r/)

According to Lee, El Lissitzky worked from the premise that *"non-Euclidian geometric space was the real space of the universe. Accordingly, he tried to represent space as curvacious since his denial of Euclidian space made him believe that curves and spheres formed the substance of the universe,... [ ] ...showing a new space image, (which is more than) just unlimited non-Euclidian space that has no ending point. That is, it creates a space image analogous to the panoramic view... [ ] ... (in that the drawings do) not provide a simple axonometric space, but a viewpoint that seems to show a picture by 360 degrees. "* [11]

In addition to the earlier recounted challenges that I faced whilst trying to reach approximations of the shapes of the individual components, Lee's observations proved to be more than apt when I started translating El Lissitzky's Proun #5A drawings into virtual architecture. El Lissitzky had created a number of drawings of the construct from multiple viewpoints and it soon became evident that neither the placement of the components or indeed their actual presence in the drawings corresponded to one another: What was there in one drawing was missing in another, and even more intriguing was that oftentimes what appeared to be a straight line from one aspect became a curve in another. The central room, which was present in all of them, turned out to be a huge challenge in and of itself since although it looked like a 90 degree cube in the drawings, when I tried to re-build what I saw I found out that the only way in which I could fit this central element into what surrounded it was to turn it into an irregular trapezoid prism. The more I looked at the drawings and the more I brought together their components in the metaverse the more I realized that what Lee considers El Lissitzky to have intended was what I was in fact experiencing - a loss of direction, a sense of duality, of being not only one, but instead multiple observers in perpetual motion. Or as El Lissitzky himself wrote: *"...the Proun ceases to exist as such and becomes a building surveyed from every direction. The result of this turns out to be the destruction of the single axis that leads to the horizon. Revolving, we are screwed into space. We imparted motion to the Proun, deriving a host of projective axes thereby — we stand between them and displace them."* [12]

#### IV. CONCLUSION/FUTURE WORK

The work on (re)building El Lissitzky's Proun #5A in the metaverse was completed in January 2014, after which the build was filmed by Saskia Boddeke, to be projected onto large screens during the exhibit in Moscow in the Spring of 2014. A further means of seeing the construct was provided to the visitors of the exhibit by placing computers (that were hooked up to the installation in Second Life, complete with 'tour guide' avatars) in the exhibiton space.

Although the original brief that I was given by Greenaway and Boddeke is now completed, I nevertheless intend to continue working on the project in the future: A logical next step, which also seems to me to resound with El Lissitzky's intentions of creating a changeable, fluid architecture that would re-invent itself based upon the

entrant's position within it, would be to put the entire construct in motion, to animate it - both as a whole, by rotating it along one or more of its axes, but also by fragmenting it into various standlaone parts that may move/rotate along individual axes, converge, join and/or come apart. Yet another step that can be contemplated is making the architecture respond to its inhabitants - to sense the presence of the avatars that enter it and to make it respond to them either through motion patterns as are described above, or through other means such as shrinking/expanding, or indeed by proceduarally disclosing its components in such ways that they may fulfill specific habitant avatar's needs as they come into being.

Thus, in conclusion, we come to the notion of 'Immaterial Materialities' - a term coined by El Lissitzky to describe a dynamics of space that could be explored through the design of imaginary/immaterial habitats. [13] It is therefore my aim to continue working on Proun #5A in the metaverse under his concept of immaterial materiality, in the hopes of bringing about a responsive architecture in the way that he too may have envisioned.

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